Conference Schedule

Wednesday Evening – June 10

6:00 pm  Registration: Outside Newman Room

7:00 pm  Plenary Talk: Newman Room  
Professor Carl Lowenberger, Canadian Research Chair in Parasitology and Vectors of Disease, Simon Fraser University  
*Insects and Parasites: After so much time why do we know so little?*

7:45 – 9:30 pm  Reception: Outside Newman Room

Thursday, June 11

7:45 – 8:50 am  Breakfast: Outside Newman Room (Full Canadian)

8:50 am  Opening Remarks: Ian Orchard

Session Chair: Ian Orchard

9:00 am  VISUALISATION OF FREEZING PROCESSES IN INSECTS THAT DO AND DO NOT SURVIVE FREEZING [see abstract- page 1]  
1Department of Biology, University of Western Ontario, London, ON, Canada; 2School of Life Sciences, University of Nevada Las Vegas, Las Vegas, NV, USA; 3Advanced Photon Source, Argonne National Laboratory, Argonne, IL, USA; 4Department of Entomology, North Dakota State University, Fargo, ND, USA; 5Department of Engineering Science and Mechanics, Virginia Tech, Blacksburg, VA, USA

9:20 am  DIET-SPECIFIC EXPRESSION OF SALIVARY TRANSCRIPTS IN BEET ARMYWORM, *SPODOPTERA EXIGUA*, CATERPILLARS [page 2]  
K. Afshar, P. J. Dufresne, L. Pan, M. Merkx-Jacques and J.C. Bede  
Department of Plant Science, McGill University, Ste-Anne-de-Bellevue, Québec, Canada.

9:40 am  HSP22 OVER-EXPRESSION AND TEMPERATURE SENSITIVITY OF LARVAL LOCOMOTION IN *DROSOPHILA MELANOGASTER* [page 3]  
Joshi, N, and Robertson, R.M.  
Department of Biology, Queen’s University, Kingston, ON, Canada.

10:00 am  STRUCTURAL FEATURES CONFERRING DUAL GERANYL / FARNESYL DIPHOSPHATE SYNTHASE ACTIVITY TO AN APHID PRENYLTRANSFERASE [page 4]  
Vandermoten, S.1,2, Charloteaux, B.3, Santini, S.3, Béliveau, C.1, Francis, F.2, Haubruege, É2 and Cusson, M.1  
1 Laurentian Forestry Centre, NRCan-CFS, Québec (Québec), Canada G1V 4C7; 2 Unité d’entomologie fonctionnelle et évolutive, et 3 Centre de biophysique moléculaire numérique, Faculté des sciences agronomiques de Gembloux, Gembloux, Belgium
Coffee Break: Outside Newman Room

MDR PROTEINS AND RESPONSE TO XENOBIOTICS BY THE CABBAGE LOOPER MOTH, TRICHOPLUSIA NI  [page 5]
Simmons, J.S.¹ and B. C. Donly¹,²
¹Department of Biology, University of Western Ontario, London, ON, Canada; ²Southern Crop Protection and Food Research Centre, AAFC, London ON, Canada

A POSSIBLE ROLE FOR THE ANAL PAPILLAE IN CADMIUM TOLERANCE IN CHIRONOMUS RIPARIUS  [page 6]
Department of Biology, McMaster University, Hamilton, ON, Canada.

EFFECT OF DESTRUXIN A, A CYCLIC PEPTIDE MYCOTOXIN, ON THE MALPIGHIAN TUBULES OF RHODNIUS PROLIXUS [page 7]
Ruiz-Sanchez, E., Orchard, I. and Lange, A.B.
Department of Biology, University of Toronto Mississauga, Mississauga, ON.

Short Exposures (5 minute talks plus questions)

PLANT DEFENSE RESPONSES TO CATERPILLAR HERBIVORY [page 8]
T. Copley and Jacqueline C. Bede
Department of Plant Science, McGill University, Ste-Anne-de-Bellevue, Québec, Canada.

RESPONSES TO REFLECTION ARE ALTERED BY SOCIAL EXPERIENCE IN DROSOPHILA MELANOGASTER [page 9]
Holly Y. May & A. Joffre Mercier
Dept. of Biological Sciences, Brock University, ON, Canada

EVOKED CONTRACTIONS OF THE VAGINA MUSCLES IN THE WESTERN CONIFER SEED BUG, LEPTOGLOSSUS OCCIDENTALIS HEIDEMANN (HETEROPTERA: COREIDAE) [page 10]
Chiang, R.G.¹,² and M.J. O’Donnell,²
¹Biology Department, Redeemer University College, Ancaster, ON, Canada; ²Biology Department, McMaster University, Hamilton, ON, Canada

Lunch Break: Outside Newman Room (Sandwich Bar)

EXPRESSION AND FUNCTIONAL CHARACTERIZATION OF INSECT MULTIDRUG RESISTANCE-ASSOCIATED PROTEINS [page 11]
Labbe, R., Caveney, S., and B.C. Donly
Department of Biology, University of Western Ontario, London, ON, Canada. Agriculture and Agri-Food Canada, London, ON, Canada.
1:30 pm APICAL V-type H⁺ ATPase COUPLED TO NHE3 DRIVES SODIUM SECRETION BY THE LARVAL POSTERIOR RECTUM OF THE EXCEPTIONALLY SALINE TOLERANT MOSQUITO OCHLEROTATUS TAENIORHYNCHUS. [page 12]
Donini, A.¹, Patrick, M.L.² and M.J. O’Donnell³
¹Department of Biology, York University; ²Department of Biology, University of San Diego ³Department of Biology, McMaster University.

1:50 pm IONOREGULATION IN LARVAL CHIRONOMIDS: INORGANIC ION FLUXES AT THE ANAL PAPILLAE OF CHIRONOMUS RIPARIUS [page 13]
Nguyen, H. and A. Donini.
Department of Biology, York University, Toronto, Ontario.

2:10 pm EFFECTS OF ACUTE AND CHRONIC EXPOSURE TO DIETARY METHOTREXATE (MTX) AND SALICYLATE ON THE RENAL SECRETION OF MTX AND SALICYLATE IN D. MELANOGASTER LARVAE [page 14]
Sarah Chahine and MJ O’Donnell
Department of Biology, McMaster University, Hamilton, ON

2:30 – 2:55 pm Short Exposures (5 minutes plus questions)

MOLECULAR CHARACTERIZATION AND GENE EXPRESSION OF JUVENILE HORMONE BINDING PROTEIN FROM THE COCKROACH DIPLOPTERA PUNCTATA [page 15]
Ritdachyeng, E.¹,², Tobe, S.S.¹ and T. Singtripop²
¹Department of Cell and System Biology, University of Toronto, ON, Canada; ²Department of Biology, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand.

IDENTIFICATION OF A NEW PRENYLTRANSFERASE IN THE BROWN SPRUCE LONGHORN BEETLE (TETROPIUM FUSCUM) [page 16]
Béliveau, C.¹, Lestra, M.¹, Silk, P.², Sweeney, J.² and Cusson, M.¹
Natural Resources Canada, Canadian Forest Service,¹ Laurentian Forestry Centre, Québec, QC, Canada and ² Atlantic Forestry Centre, Fredericton, NB, Canada.

Nasirian, A. and A. Donini
Department of Biology, York University, Toronto, On, Canada

ROLE OF UPSTREAM TAAG LATE PROMOTER MOTIFS IN TRANSCRIPTION OF AUTOGRAPHA CALIFORNICA MULTIPLE NUCLEOPOLYHEDROVIRUS V-CATH [page 18]
Michael J. Norris¹, Jeffrey J. Hodgson¹, Peter J. Krell¹
¹Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON N1G 2W1

2:55 – 3:20 pm Coffee Break
Session Chair: Daniel Doucet

3:20 pm  **THE ROLE OF ME53 IN BACULOVIRUS INFECTION** [page 19]
Jondavid de Jong 1, Basil Arif 2, David Theilmann 3 and Peter Krell 1
1 Dept. of Molecular and Cellular Biology, University of Guelph, Guelph, ON, N1G 2W1;
2 Great Lakes Forestry Centre, Natural Resources Canada, Sault Ste. Marie, ON, P6A 2E5;
3 Pacific Agri-Food Research Centre, Agriculture and Agri-Food Canada, Summerland, BC, V0H 1Z0

3:40 pm  **INTRACELLULAR TARGETING AND PROCESSING OF BACULOVIRAL PRE-PROV-CATH** [page 20]
Jeffrey J. Hodgson 1, Basil M. Arif 2 and Peter J. Krell 1
1 Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, N1G 2W1, Canada.;
2 Laboratory for Molecular Virology, Great Lakes Forestry Centre, Sault Ste Marie, ON, P6A 2E5, Canada.

4:00 pm  **PROTEOMICS ANALYSIS OF THE OCCLUSION DERIVED VIRUS (ODV) OF NEODIPRION ABIETIS NUCLEOPOLYHEDROVIRUS (NeabNPV)** [page 21]
Shannon R. Escasa 1, Peter J. Krell 2, Christopher Lucarotti 3 and Basil M. Arif 4
1 Laboratory for Molecular Virology, Great Lakes Forestry Centre, Sault Ste. Marie, ON, P6A 2E5.
2 Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, N1G 2W1.
3 Atlantic Forestry Centre, Fredericton, New Brunswick.

4:20 pm  **FUNCTIONS OF THE RECEPTOR FOR ACTIVATED C KINASE 1 IN SPRUCE BUDWORM** [page 22]
Guoxing Quan 1, Daniel Doucet 1, Tim ladd 1, Peter J. Krell 2 and Basil M. Arif 4
1 Great Lakes Forestry Centre, Canadian Forest Service, 1219 Queen Street East, Sault Ste. Marie, Ontario, Canada, P6A 2E5;
2 Department of Molecular and Cellular Biology, University of Guelph, Guelph, Ontario, Canada

4:40 pm  **End of Session**

6:00 pm  **Vineyard Tour, Vinelands Estates Winery**

7:00 pm  **Conference Dinner, Vinelands Estates Winery**
Friday, June 12

8:00 – 9:00 am  Breakfast: Outside Newman Room (Full Canadian)

Session Chair:  Stephen Tobe

9:00 am  INVESTIGATION OF MECHANISMS UNDERLYING MODULATION OF MUSCLE CONTRACTION BY A DROSOPHILA NEUROPEPTIDE  
Milakovic, M. 1, Clark, J. 2 and Mercier, A.J. 1.

1 Department of Biological Sciences, Brock University, St. Catharines, ON, Canada; 2 Department of Biology, York University, Toronto, ON, Canada.

9:20 am  PEPTIDERIC INNERVATION OF THE LOCUST GUT  
Robertson, L. and Lange, A.B.
Department of Biology, University of Toronto Mississauga, Mississauga, ON

9:40 am  CHARACTERIZATION OF A CRUSTACEAN CARDIOACTIVE PEPTIDE IN THE BLOOD-FEEDING INSECT, RHODNIUS PROLIXUS  
Do Hee Lee, Jean-Paul Paluzzi and Angela Lange
Department of Biology, University of Toronto Mississauga, Mississauga, ON

10:00 am  THE NEURAL CONTROL OF THE SPERMATHECA IN THE MIGRATORY LOCUST, LOCUSTA MIGRATORIA.  
da Silva, R. and A.B. Lange
Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada.

10:20 – 10:40 am  Coffee Break: Outside Newman Room

Session Chair:  Michael O’Donnell

10:40 am  DEVELOPMENT OF A SPRUCE BUDWORM MICROARRAY PLATFORM FOR STUDYING ECDYSONE-CONTROLLED GENE EXPRESSION.  
D. Doucet 1, D. Zhang, S. Bowman 1, P.J. Krell 2.

1 Great Lakes Forestry Centre, Canadian Forest Service, 1219 Queen Street East, Sault Ste. Marie, Ontario, Canada, P6A 2E5; 2 Department of Molecular and Cellular Biology, University of Guelph, Guelph, Ontario, Canada

11:00 am  ENDOCRINE REGULATION OF LOBSTER REPRODUCTION: ROLES OF FARNESOIC ACID AND 20-HYDROXYECDYSONE  
Shirley Hiu-Kwan Tiu 1, Siu-Ming Chan 2 and Stephen S. Tobe 1.

1 Department of Cell & Systems Biology, University of Toronto, Toronto, ON, Canada.  2 School of Biological Sciences, The University of Hong Kong, Hong Kong

11:20 am  MOLECULAR CLONING AND CHARACTERIZATION OF THE RETINOID X RECEPTOR (RXR) HOMOLOG, ULTRASPIRACLE PROTEIN, FROM THE VIVIPAROUS COCKROACH DIPLOPTERA PUNCTATA.  
Hult, E. F. and Tobe, S. S.
Department of Cell and Systems Biology, University of Toronto, Toronto, ON, Canada.
11:40 am  EXPRESSION OF OCTOPAMINE RECEPTOR GENES IN THE CABBAGE LOOPER, TRICHOPLUSIA NI [page 30]
Lam, F. a and B. C. Donly a,b
a Department of Biology, University of Western Ontario, London, ON, Canada; b Southern Crop Protection and Food Research Centre, Agriculture and Agri-Food Canada, London, ON, Canada

12:00 – 1:10 pm  Lunch Break: Outside Newman Room (Taste of Italy)

Session Chair: Andrew Donini

1:10 pm  TRANSPORT OF K+ ACROSS THE BLOOD BRAIN BARRIER OF THE VENTRAL NEURAL CORD OF THE COCKROACH. [page 31]
Kocmarek, A.L. and O'Donnell, M.J.
Department of Biology, McMaster University, Hamilton, ON

1:30 pm  THE ACTIVITY OF DIURETIC FACTORS ON THE ANTERIOR MIDGUT AND MALPIGHIAN TUBULES OF RHODNIUS PROLIXUS. [page 32]
Victoria Te Brugge and Ian Orchard
Department of Biology, University of Toronto Mississauga, Mississauga, ON, Canada

1:50 pm  IDENTIFICATION OF AQUAPORINS IN DIFFERENT TISSUES OF RHODNIUS PROLIXUS. [page 33]
Staniscuaski F.1, Paluzzi J.P.2, Carlini C.R.1 and Orchard I.2.
1 Department of Biophysics and Center of Biotechnology, Universidade Federal do Rio Grande do Sul, Brazil; 2 Department of Biology, University Toronto Mississauga, Canada.

2:10 pm  HAEMOLYMPH [Na+] AND [K+] HOMEOSTASIS IN DROSOPHILA IN RESPONSE TO DIETARY LOADING: THE ROLE OF THE MALPIGHIAN TUBULES. [page 34]
Wida Naikkhwah and M. J. O'Donnell
Department of Biology, McMaster University, Hamilton, ON, Canada.

2:30 pm  MOLECULAR CLONING AND FUNCTIONAL CHARACTERIZATION OF A RECEPTOR INVOLVED IN ANTI-DIURESIS IN THE DISEASE VECTOR, RHODNIUS PROLIXUS. [page 35]
Paluzzi, Jean-Paul1, Yoonseong Park2 and Ian Orchard1
1 Department of Biology, University of Toronto Mississauga, Mississauga, ON; 2 Department of Entomology, Kansas State University, Manhattan, KS

2:50 – 3:00 pm  Closing Remarks

3:00 pm  End of Conference